PERGAMON

Journal of Quantitative Spectroscopy & Radiative Transfer 71 (2001) 753–758

Journal of Quantitative Spectroscopy & Radiative Transfer

www.elsevier.com/locate/jqsrt

List of Contents

NUMBER 1

A. Kuusk 1 A two-layer canopy reflectance model

L.H. Liu and **H.P. Tan** 11 Non-Fourier effects on transient coupled radiative–conductive heat transfer in one-dimensional semitransparent medium subjected to a periodic irradiation

C. Yildiz 25 The spherical harmonics method for anisotropic scattering in neutron transport theory: the critical sphere problem

T. von Clarmann, U. Grabowski and **M. Kiefer** 39 On the role of non-random errors in inverse problems in radiative transfer and other applications

W.E. Blass, J.J. Hillman, A. Fayt, S.J. Daunt, L.R. Senesac, A.C. Ewing, L.W. Jennings, J.S. Hager, S.L. Mahan, D.C. Reuter and **M. Sirota** 47 10μm ethylene: spectroscopy, intensities and a planetary modeler's atlas

D. Mihalas and **L.H. Auer** 61 On laboratory-frame radiation hydrodynamics

Note

R.H. Tipping and **J.-P. Bouanich** 99 On the use of Herman–Wallis factors for diatomic molecules

105 Corrigendum

NUMBERS 2–6

J. Abdallah Jr., H.L. Zhang, C.J. Fontes, D.P. Kilcrease and **B.J. Archer** 107 Model comparisons for high-Z non-LTE steady-state calculations

M.L. Adams, H.A. Scott, R.W. Lee, J.L. Terry, E.S. Marmar, B. Lipschultz, A.Yu. Pigarov and **J.P. Freidberg** 117 Application of magnetically-broadened hydrogenic line profiles to computational modeling of a plasma experiment

PII: S0022-4073(01)00187-X

I.R. Al'Miev, S.J. Rose and **J.S. Wark** — 129 Simulations of Al XIII–Fe XXIV X-ray laser photopumping scheme

S. Alexiou — 139 X-ray laser line narrowing: new developments

T. Auguste, A.Ya. Faenov, I. Fukumoto, S. Hulin, A.I. Magunov, P. Monot, P. D'Oliveira, T.A. Pikuz, A. Sasaki, B.Yu. Sharkov, I.Yu. Skobelev, T. Tajima and **A.G. Zhidkov** — 147 Observation of MeV multicharged ions and hot electrons accelerated by a 65-fs laser pulse

J.E. Bailey, D. Cohen, G.A. Chandler, M.E. Cuneo, M.E. Foord, R.F. Heeter, D. Jobe, P. Lake, D.A. Liedahl, J.J. MacFarlane, T.J. Nash, D. Nielson, R. Smelser and **W.A. Stygar** — 157 Neon photoionization experiments driven by Z-pinch radiation

A. Bar-Shalom, M. Klapisch and **J. Oreg** — 169 HULLAC, an integrated computer package for atomic processes in plasmas

C. Bauche-Arnoult and **J. Bauche** — 189 The temperature law for superconfigurations in non-LTE plasmas

C. Bowen — 201 NLTE emissivities via an ionisation temperature

P.D.S. Burnett, D.M. Chambers, D. Heading, A. Machacek, W.C. Moss, S. Rose, M. Schnittker, R.W. Lee, P. Young and **J.S. Wark** — 215 Modeling a sonoluminescing bubble as a plasma

M. Busquet, M. Klapisch and **A. Bar-Shalom** — 225 VirtualSpectro: a non-LTE post processor with superconfigurations and its application to a Xe-filled Be hohlraum

D.M. Chambers, S.H. Glenzer, J. Hawreliak, E. Wolfrum, A. Gouveia, R.W. Lee, R.S. Marjoribanks, O. Renner, P. Sondhauss, S. Topping, P.E. Young, P.A. Pinto and **J.S. Wark** — 237 Detailed hydrodynamic and X-ray spectroscopic analysis of a laser-produced rapidly-expanding aluminium plasma

C. Chenais-Popovics, M. Fajardo, F. Thais, F. Gilleron, J.C. Gauthier, K. Eidmann, W. Fölsner, T. Blenski, F. Perrot, C. Bauche-Arnoult, A. Bachelier and **J. Bauche** 249 Absorption measurements of radiatively heated multi-layered Al/Ni foils

B.J.B. Crowley and **J.W. Harris** 257 Modelling of plasmas in an average-atom local density approximation: the CASSANDRA code

G. Csanak and **D.P. Kilcrease** 273 Photoabsorption in hot, dense plasmas—the average atom, the spherical cell model and the random phase approximation II

G. Csanak and **G.D. Meneses** 281 The finite temperature random phase approximation as a coupled-channel problem and the implementation of the single-channel random phase approximation (SCRPA) for the He atom in a finite temperature dense plasma

A. Decoster 295 Onsager symmetry of the average ion near equilibrium

R. Doron, E. Behar, P. Mandelbaum and **J.L. Schwob** 305 Dielectronic recombination from Ni-like Mo in singly-excited levels through the doubly-excited Cu-like $3d^9 4ln'l'(n' \leqslant 9)$ complexes in dense plasmas

M. Fajardo, P. Audebert, H. Yashiro, J.-C. Gauthier, C. Chenais-Popovics, P. Renaudin, O. Peyrusse, X. Fortin and **R. Shepherd** 317 Experimental and numerical study of the ionization dynamics of a nanosecond laser-produced aluminum plasma with picosecond resolution

M. Primout, D. Babonneau, B. Canaud, C. Blancard and **G. Faussurier** 331 Influence of two-electron processes on properties of NLTE plasmas

K.B. Fournier, B.K.F. Young, S.J. Moon, M.E. Foord, D.F. Price, R.L. Shepherd and **P.T. Springer** 339 Characterization of time resolved, buried layer plasmas produced by ultrashort laser pulses

S.H. Glenzer, K.B. Fournier, B.G. Wilson, R.W. Lee and **L.J. Suter** 355 Ionization balance in inertial confinement fusion hohlraum plasmas

L. Godbert-Mouret, M. Koubiti, R. Stamm, K. Touati, B. Felts, H. Capes, Y. Corre, R. Guirlet and **C. De Michelis** 365 Spectroscopy of magnetized plasmas

M.A. Gunderson, G.C. Junkel-Vives and **C.F. Hooper Jr.** 373 A comparison of a second-order quantum mechanical and an all-order semi-classical electron broadening model

J. Hawreliak, D. Chambers, S. Glenzer, R.S. Marjoribanks, M. Notley, P. Pinto, O. Renner, P. Sondhauss, R. Steel, S. Topping, E. Wolfrum, P. Young and **J.S. Wark** 383 A Thomson scattering post-processor for the MEDUSA hydrocode

V.L. Jacobs, E. Behar and **B.F. Rozsnyai** 397 Autoionization phenomena in dense photoionized plasmas

G.C. Junkel-Vives, J. Abdallah Jr., F. Blasco, C. Stenz, F. Salin, A.Ya. Faenov, A.I. Magunov, T.A. Pikuz, I.Yu. Skobelev, T. Auguste, P. D'Oliveira, S. Hulin, P. Monot and **S. Dobosz** 417 High resolution X-ray spectroscopy investigations of fs laser irradiated Ar clusters by varying cluster size and laser flux density

T. Kato, N. Yamamoto, R. More and **T. Fujimoto** 431 Collisional radiative model including dielectronic states

D.P. Kilcrease and **N.M. Magee Jr.** 445 Plasma non-ideality effects on the photon–electron scattering contribution to radiative opacities

M. Koubiti, L. Godbert-Mouret, Y. Marandet, R. Stamm, K. Touati, A. Escarguel, H. Capes, R. Guirlet and **C. De Michelis** 455 Spectroscopic analysis of the plasma-neutral relaxation near to the plasma boundary

O.L. Landen, S.H. Glenzer, M.J. Edwards, R.W. Lee, G.W. Collins, R.C. Cauble, W.W. Hsing and **B.A. Hammel** 465 Dense matter characterization by X-ray Thomson scattering

S.H. Langer, H.A. Scott, M.M. Marinak and **O.L. Landen** 479 Modeling titanium line emission from ICF capsules in three dimensions

E. Leboucher-Dalimier, P. Sauvan, P. Angelo, A. Poquérusse, R. Schott, E. Dufour, E. Minguez and **A. Calisti** 493 Observation of ion-ion correlation effects on emissivity and opacity of hot ultra-dense low Z plasmas

R.M. More, T. Kato, S.B. Libby and **G. Faussurier** 505 Atomic processes in near-equilibrium plasmas

Y. Morita, H. Nishimura, Y. Ochi, K. Fujita, M. Fukao, M. Suzuki, T. Kawamura, H. Daido and **H. Takabe** 519 Model calculations and experiments on photoionized plasmas in relevant to laboratory astrophysics

Y. Ochi, T. Kawamura, H. Nishimura, M. Fukao, K. Fujita, H. Shiraga, H. Azechi and **T. Yamanaka** 531 Analysis of laser imploded core plasma formation by Li-like satellite lines from argon dopant

F. Ogando and **P. Velarde** 541 Development of a radiation transport fluid dynamic code under AMR scheme

N. Ohnishi, H. Nagatomo, H. Nishimura, H. Takabe and **T. Yamanaka** 551 Radiation effects on hydrodynamic perturbation growth due to non-uniform laser irradiation

E. Oks and **D. Volodko** 561 A new, highly unusual shift of hydrogen-like spectral lines in dense plasmas

O. Peyrusse 571 On the superconfiguration approach to model NLTE plasma emission

S.A. Pikuz, T.A. Shelkovenko, D.B. Sinars, D.A. Hammer, S.V. Lebedev, S.N. Bland, Yu. Skobelev, J. Abdallah, C.J. Fontes and **H.L. Zhang** 581 Spatial, temporal, and spectral characteristics of an X pinch

Yu.V. Ralchenko, H.R. Griem, I. Bray and **D.V. Fursa** 595 Electron collisional broadening of 2s3s–2s3p lines in Be-like ions

Y.V. Ralchenko and **Y. Maron** 609 Accelerated recombination due to resonant deexcitation of metastable states

O. Renner, F.B. Rosmej, E. Krousky, P. Sondhauss, M.P. Kalachnikov, P.V. Nickles, I. Uschmann and **E. Förster** 623 Aluminum Lyman α group formation at high-intensity, high-energy laser-matter interaction

S.J. Rose 635 The radiative opacity at the Sun centre—a code comparison study

F.B. Rosmej, A. Calisti, B. Talin, R. Stamm, W. Süß, M. Geißel, D.H.H. Hoffmann, A.Ya. Faenov and **T.A. Pikuz** 639 Observation of two-electron transitions in dense non-Maxwellian laser-produced plasmas and their use as diagnostic reference lines

B.F. Rozsnyai	655	Solar opacities
A. Sasaki, T. Utsumi, K. Moribayashi, M. Kado, M. Tanaka, N. Hasegawa, T. Kawachi and **H. Daido**	665	The gain distribution of the transient collisional excited X-ray lasers
P. Sauvan, P. Angelo, A. Calisti, E. Leboucher-Dalimier and **E. Minguez**	675	Improving the dicenter model for hot dense plasmas: molecular stark effect
H.A. Scott	689	Cretin—a radiative transfer capability for laboratory plasmas
S. Seidel, Th. Wrubel, G. Roston and **H.-J. Kunze**	703	Line profile measurements of (^{4}S) 6s ^{5}S–(^{4}S) 6p ^{5}P transitions of Xe III
R. Shepherd, P. Audebert, C. Chenais-Popovics, J.P. Geindre, M. Fajardo, C. Iglesias, S. Moon, F. Rogers, J.C. Gauthier and **P. Springer**	711	Absorption of bound states in hot, dense matter
P. Sondhauss, S.J. Rose, R.W. Lee, I. Al'miev and **J.S. Wark**	721	Extension of the code suite FLY to a multi-cell postprocessor for hydrodynamic plasma simulation codes
B. Talin, A. Calisti, E. Dufour and **J. Dufty**	729	Classical dynamics of electrons surrounding ions in hot and dense plasmas—related topics
Th. Wrubel, S. Büscher, H.-J. Kunze and **S. Ferri**	739	Lyman series lines of He II measured in a gas-liner pinch
Contents Index	753	
Author Index	759	